

an underestimate of costs in the real (future) world because neither an efficient ILEC nor an efficient entrant will serve under those hypothesized circumstances. Even if all of its engineering and economic assumptions were correct, the model would not calculate anything resembling “the incremental costs that incumbents actually expect to incur in making network elements available to new entrants” which is the “benchmark of forward-looking cost and existing network design”⁶ that the FCC TELRIC method is intended to measure.

Networks that do not recover their actual costs will, over time, go out of business. With the introduction of competition, ILECs and entrants alike will have every incentive to lower their *actual* costs. Such market pressures—emulated by the pressures of price cap regulation—provide far better incentives than regulatory incentives based on the comparison of a LEC’s actual costs with the benchmark costs of a hypothetical network.

III. USE OF ILEC COSTS AS DETERMINED AT THE STATE LEVEL ARE PREFERABLE

The Commission can reasonably rely on ILEC costing methodologies that have been reviewed by state regulatory authorities for purposes of determining areas that should receive high-cost support. ILEC costs determined at the state level provide a more accurate estimate of the actual costs an efficient firm will incur in providing local exchange service and thus will provide decision makers with correct and reliable information. States have had significant experience in evaluating and judging incremental cost studies and can be relied upon to review ILEC estimates of the actual costs incurred in providing local exchange services.

Some parties express concern that the information required to compute prices based on forward-looking costs is inherently so hypothetical as to be of little or no practical value. Based on the record before us, we disagree. A number of states, which ultimately will have to review forward-looking cost studies in carrying out their duties under section 252, either have already implemented forward-looking, incremental costing methodologies to set prices for interconnection and unbundled network elements or support the use of such an

⁶ Interconnection Order, ¶685.

approach...the record demonstrates that such approaches are practical and implementable.⁷

Company-specific cost models start with detailed data regarding a company's expected operations and planning methods and develop forward-looking estimates based on expected future conditions and anticipated future costs. It is important that actual conditions be used because economic efficiency requires that prices be based on the costs caused by providing a particular service. If the costs do not reflect actual characteristics or network circumstances, then the prices paid will not reflect the cost of the actual resources that are used. Such prices distort economic efficiency and base public policy on incorrect information. Only prices based on the costs of the incumbent LEC are the proper target for comparison by rivals contemplating entering the market. State-approved ILEC costing methodologies best approximate those costs.

In addition, at the current state of technology, it is almost inconceivable that new start-up networks or upgrades to existing networks will not install platforms that can support broadband facilities. It is hard to accept the possibility that future technology choices will stay the same as current ones, particularly given the rate of technological change that is currently being experienced by the telecommunications industry. ILECs and competitor CLECs will both likely invest in broadband facilities in order to offer their customers integrated packages that utilize data services, e.g. Internet access, video and voice often delivered simultaneously over a single facility.

These factors make ILEC state-determined costs a better predictor than proxy cost models. Economic efficiency requires that prices be based on the costs caused by providing a particular service. If the costs do not reflect actual service characteristics or network circumstances, then the prices paid will not reflect the cost of the actual resources that are used. This will distort the resource allocation process and reduce economic efficiency. The importance of using company-specific data cannot be over-emphasized. Prices based on the actual costs of the ILEC are the proper target for comparison by rivals contemplating entering

⁷ Interconnection Order, ¶681.

the market. Finally, a company that is forced to price its products below its efficient economic costs cannot survive.

In comparing ILEC costing methodologies with the current crop of cost proxy models, one must compare the incentives under which each model was constructed. For example, the sponsors of the Hatfield model are AT&T and MCI—avowed entrants into the local exchange market. They have confirmed in state proceedings that they make no use of the model in their internal plans. However, AT&T asserts in some regulatory proceedings that it would cost \$29 billion in investment to replicate the local exchange network to serve (presumably the low cost) 20 percent of the market. Roughly speaking, this investment amounts to \$1,240 per line.⁸ In contrast, the Hatfield model estimates a forward-looking investment cost of approximately \$840 per line. It is clear that AT&T did not rely on the Hatfield model when it estimated its own investment needs. This discrepancy echoes the findings of other critics of the model that

[i]t would appear that the revisions to the Hatfield model are result driven and the model can be adjusted to produce whatever cost answer its sponsors desire.⁹

IV. CONCLUSIONS

Decisions regarding universal service support must be based on *actual* incumbent costs—not based on an unrepresentative hypothetical network. For calculating relative costs in identifying high-cost areas, the Commission can reasonably rely as its primary tool on incumbent Local Exchange Company (ILEC) costs as determined at the state level.

While correct input values—such as cost of capital and depreciation expenses—improve the ability of the proxy cost models to approximate actual forward-looking costs incurred by an efficient provider, applying those inputs to an unrepresentative hypothetical network fail to estimate accurately the true costs to society of producing telecommunications services and models based on such unrealistic networks should be avoided. Basing prices on costs that no

⁸ Rebuttal Testimony of Timothy J. Tardiff on Behalf of New York Telephone, Before the New York Public Service Commission, Case Nos. 95-C-0657, 94-C-0095, 91-C-1174, July 15, 1996.

⁹ Shifman-Choura, p. 24.

real-world provider could hope to meet is fundamentally anticompetitive, because it would stifle, not promote, the most effective type of competition which is facilities-based. Incremental costs must approximate the *actual* amount of resources that society foregoes—opportunity costs—when it consumes local exchange services. Failure to do so would lead to inefficiencies and provide incorrect market signals, reducing the benefits that competition would otherwise bring to consumers of telecommunications services.

BELL ATLANTIC-DELAWARE, INC.
REBUTTAL TESTIMONY OF WILLIAM E. TAYLOR, Ph.D.
BEFORE THE DELAWARE PUBLIC SERVICE COMMISSION
DOCKET NO. 96-324
FEBRUARY 11, 1997

Q. CAN YOU PROVIDE INSTANCES OF HOW MUCH THE COST OF THE UNBUNDLED LOOP CHANGES IN THE HM WHEN MORE REALISTIC INPUT VALUES ARE USED?

A. Without conducting an exhaustive sensitivity analysis, it is still possible to observe that the TELRIC for the unbundled total loop is increased by non-trivial percentages when more realistic BA-Del specific inputs are used.

Table 2 summarizes what happens to the unbundled loop cost when some of these inputs are changed, one at a time.

Table 2. Sensitivity of Unbundled Loop Cost to Changes in Input Values

Input Change Scenario	New Unbundled Loop Cost (Base: \$12.68)	Percentage Increase in Unbundled Loop Cost
HM depreciation lives changed to BA-Del lives	\$14.77	16.48%
HM cost of capital changed to 13.2%	\$15.21	19.95%
HM cable costs changed to BA-Del levels	\$14.92	17.67%
HM percentage of structure costs assigned to telephone changed to 89% for aerial, 100% for buried, and 99.4% for underground	\$16.07	26.74%

It is obvious that the loop cost would increase quite impressively if all the individual input changes above were to be combined. These results may be compared with those produced by BA-Del's own cost study.

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

The Use of Computer Models For Estimating
Economic Cost

A Staff Analysis

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CPD Docket No. 97-2

COMMENTS

BellSouth Corporation and BellSouth Telecommunications, Inc. ("BellSouth") hereby submit their comments on the staff analysis regarding the use of computer models for estimating forward-looking economic costs.

I. INTRODUCTION

On January 9, 1997, the Common Carrier Bureau released a Public Notice requesting comment on a staff analysis of forward-looking proxy cost models.¹ The use of proxy cost models is specifically being considered by the Commission in the interconnection proceeding (CC Docket 96-98) and in the universal service proceeding (CC Docket 96-45). While the staff analysis begins with a discussion of the criteria for evaluating an economic cost model, the focus of the analysis is on the structure and input requirements of the existing proxy models.

¹ "Commission Staff Releases Analysis of Forward-Looking Economic Cost Models," Public Notice, DA 97-56, released January 9, 1997.

In these comments, BellSouth discusses the appropriate role proxy cost models can play. BellSouth also addresses several of the specific areas in which the staff analysis raises questions regarding the structure and input of the proxy models.

II. DISCUSSION

At the outset, the staff should be commended for its focus on input requirements of the proxy models. Like any computer application, the time proven axiom of garbage in, garbage out applies. The complexity of the proxy models makes the potential distortions from misspecified or incorrect inputs even more pernicious. To sort through a model's algorithms and identify and isolate the effects of misspecified input values is a time-consuming, tedious task in an environment where time is a scarce commodity. Compounding what would be a daunting task in the best of circumstances is the fact that the models have been in a continuous state of change.

Despite the inordinate efforts on the part of the Commission staff and interested parties to evaluate proxy models, substantial questions remain. Hence, the first limitation with regard to proxy models is that it is highly unlikely that sufficient information will be available to make a sound evaluation and selection of a proxy model for any purpose in the near future. The Commission must continue the inquiry process and afford sufficient time to complete a thorough review of the model, its algorithms, and its inputs. Only afterwards can a model be adopted--until that time any use of model would be interim and subject to adjustment.

A. A Forward-Looking Cost Model Should Estimate Forward-Looking Costs That Actually Will Be Incurred

As the Commission and interested parties continue to analyze the proxy models, a starting point must be an agreement regarding the costs that the models are supposed to produce. The debate that has surrounded the definition of forward-looking costs evidences the significant effect

that this preliminary decision can have on the output of the model. Thus, the debate has been whether forward-looking costs will be based on the costs that will actually be incurred or whether they will be the estimated costs of a hypothetical, completely new network.

In a recent letter to Chairman Hundt, Alfred Kahn clearly explained that a hypothetical, proxy cost model does not produce "the efficient" cost level in a competitive market:

Advocates of the 'blank slate' version of TELRIC typically assume that that is the level to which competition would drive prices, if it were effective. They are mistaken. In a world of continuous technological progress, it would be irrational for firms constantly to update their facilities in order completely to incorporate today's lowest-cost technology, as though starting from scratch: investments made today, totally embodying today's most modern technology, would instantaneously be outdated tomorrow and, in consequence, never earn a return sufficient to justify the investments in the first place. For this reason, as Professor William J. Fellner pointed out many years ago, firms even in competitive industries would systematically practice what he calls 'anticipatory retardation,' adopting the most modern technology only when the progressively declining real costs had fallen sufficiently below currently prevailing prices as to offer them a reasonable expectation of earning a return on those investments over their entire economic life. In consequence, even perfectly competitive prices would not be set at the level of these (totally) current costs.²

It is abundantly clear that the competition cannot be invoked to justify a model based on a hypothetical cost structure. As Dr. Kahn puts it, "only the market, and not regulation, can determine the efficient result."³

² Letter to The Honorable Reed E. Hundt from Alfred E. Kahn at 2 (January 14, 1997). (hereinafter "Kahn")

³ *Id.* Dr. Kahn further points out that a major defect of a hypothetical cost approach is that it actually can discourage competition. In unregulated markets, incumbent firms establish prices on the basis of actual costs. Such prices are the proper target for challengers. If the challenger can beat the incumbent's price, they will enter the market and this process will drive prices down. It is this competitive process that a hypothetical cost approach derails.

A model that is based on a hypothetical network simply would not be a reflection of a competitive marketplace. It is simply unrealistic to assume, as a hypothetical model does, that firms discard valuable and useful assets every time a more efficient technology becomes available. As Dr. Kahn points out, competition is a process and, accordingly, price reductions that may accompany technological advances occur as part of that process.⁴ Price reductions are not instantaneous, independent events in the real world. It would be economic folly to attempt through regulation to create the hypothetical, perfectly competitive market through the use of a proxy model.

B. Forward-Looking Proxy Costs Do Not Equate To Appropriate Price Levels

The staff analysis identifies that the model may be used to set prices for unbundled network elements or access charges.⁵ Forward-looking cost models are not pricing models and should not be used for such purposes. The only relationship that should be drawn between forward-looking costs developed in these models and prices is that such costs represent a floor below which prices cannot fall.

Regardless of the model, a forward-looking cost does not and is not intended to account for joint and common costs because such costs are not considered incremental with respect to any one service. Nevertheless, joint and common costs are real costs that must be recovered. Failure to permit full recovery of these costs would not only be unlawful,⁶ but also it would constitute

⁴ *Id.* See also Brief For Petitioners-Regional Bell Companies and GTE at 42-43, *Iowa Utilities Board, et. al. v. Federal Communications Commission*, No. 96-3321 (8th Cir.), November 18, 1996.

⁵ Staff Analysis at ¶ 11.

⁶ There are at least three constitutional issues that arise if prices for unbundled elements are set equal to incremental costs (including total element long run incremental costs). Such prices (Footnote Continued.....)

bad public policy because it would deter investment and fundamentally disadvantage incumbent LECs.⁷

Further what must be borne in mind is that the issue here is not a matter of cost allocation but rather cost recovery. As Dr. Kahn observes:

The FCC recognized that rates set at bare incremental costs would not produce enough revenue for companies to recover even their total forward-looking costs, let alone the costs that they have incurred historically and not yet fully recovered, along with the revenue deficiencies created by the under pricing of basic residential service. The critical issues therefore revolve around the markups above incremental costs that may be incorporated in these charges to competitors--in compliance with the Act's provision entitling the LECs to an opportunity to a 'reasonable' profit. The clear intention of the insistence by the five economists that prices be based exclusively on forward-looking costs is, of course, to foreclose a markup above incremental costs in order to permit recovery of any portion of the huge sunk costs that the incumbent LECs have incurred constructing their ubiquitous networks.⁸

In a competitive market, firms will price above incremental costs and such prices may be above, below or equal to embedded costs or historical costs. The degree to which prices exceed incremental costs will be based on market considerations existing at the time.⁹ The fundamental

(1) would require LECs to sell at prices that do not cover all of their costs; (2) deprive LECs of the opportunity to earn a fair rate of return on prudently invested capital; and (3) would destroy, without compensation, the regulatory bargain that formed the basis of prior LEC investments. See Reply Brief for Petitioners--Regional Bell Companies and GTE at 24, *Iowa Utilities Board, et. al. v. Federal Communications Commission*, No. 96-3321 (8th Cir.), January 6, 1997.

⁷ See Direct Testimony of Dr. Steven Parsons Before the South Carolina Public Service Commission, Docket No. 96-358-C at 31-34 (January 20, 1996) (hereinafter "Parson's Testimony"). The relevant pages of Dr. Parson's Testimony are included as Attachment 2. The Commission has recognized the principle that prices, even for unbundled network elements, must recover some portion of joint and common costs. See *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, CC Docket No. 96-98 at ¶ 694 (released August 8, 1996).

⁸ Kahn at 3.

⁹ See Parsons at 38.

principle that must be understood is that firms, on average, must recover their historical costs and earn a normal accounting profit. No firm would enter a market or engage in any activity if it expected that it would not recover all of its investment. While the market may dictate winners and losers, it is wholly inappropriate, as a matter of regulatory policy, to use a proxy model to set prices that foreclose the opportunity of a firm to recover its full costs.¹⁰ It is impossible to rationalize a regulatory policy which precludes the recovery of historical costs in light of the fact that, absent regulation, the firm would have a reasonable opportunity for recovery of such costs. There is no sound economic basis for precluding users of unbundled elements to contribute to the recovery of LECs' historical costs.¹¹

C. Proxy Cost Models Should Not Be Used To Determine The Cost Of Universal Service

Under the Telecommunications Act of 1996, the Commission is required to establish a specific and predictable federal universal service fund that makes explicit the heretofore implicit support that universal service has received. Hence, the Commission cannot approach universal service as a newly invented concept for which it has a blank slate to create a new universal service paradigm. The fact of the matter is that incumbent LECs are currently providing universal service and that universal service is being supported by a potpourri of mechanisms, with the vast majority of support being implicit in the rates of LEC's telecommunications services.

¹⁰ As Dr. Parsons points out, "it is the costs of the *least* efficient firm in the market which actually survives which most closely corresponds to the price in the market." Parsons at 38-39.

¹¹ *Id.* at 44. Dr. Parsons concludes that recovering historical costs through a contribution from unbundled elements not only results in charging competitors the same prices for inputs which a LEC implicitly charges itself in establishing service prices, but also, it has the primary benefit that the "markup on unbundled network elements is competitively neutral and will only serve to promote the competitive process." *Id.* at 43.

The mandate of the Telecommunications Act is to transform the existing implicit support into an explicit support mechanism. In order accomplish the purposes of the Telecommunications Act, universal service fund should be based on the LEC's actual costs. These costs include the embedded costs that LECs have incurred in the provision of universal service and that have yet to be recovered.

As BellSouth has demonstrated, a universal service fund that is based on an incumbent LEC's actual costs is pro-competitive.¹² Competitors with incremental costs lower than the incumbent's incremental costs will eventually win the opportunity to provide service (*i.e.*, to win over the incumbent's customers). This is because the support that is initially set equal to the difference between the universal service rate and the incumbent's per-line book cost may prove to be greater than that needed by a competitor with a lower incremental cost to match the price at which the incumbent provides service. By basing support on the actual costs of the incumbent, a more efficient competitor could offer the same service at a price below that set by regulatory policy. Customers would have an economic incentive to shift to the more efficient firm. The benefits to this approach are compelling: (1) portable support payments insure the most efficient competitor eventually serves the customer; (2) it provides a strong incentive to the incumbent to become more efficient; and (3) it offers the incumbent the opportunity to recover its past and present, prudently-incurred, actual costs.¹³

¹² See, Further Comments of BellSouth Corporation and BellSouth Telecommunications Inc., In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45 at 33-34 (August 2, 1996).

¹³ *Id.* at 34.

Because support will be portable among competitors, and to facilitate competition, universal service areas for newly designated eligible carriers are anticipated to be smaller than the full serving areas of incumbent LECs. Because actual costs reflect an averaging across the entire serving area of the incumbent LEC, it will be necessary to disaggregate those costs into the smaller geographical units that the state commissions establish as universal service areas. It is in disaggregating actual costs that a proxy cost model can be used. The proxy model, if properly specified, could provide results that could be used to establish the relative cost relationships among the smaller universal service areas within an incumbent's serving territory. Support can be targeted to those universal service areas whose costs, based on the proxy model, have higher costs relative to the other universal service areas within the total serving area of the incumbent.

D. Any Proxy Model Should Be Properly Specified

The principle that a model should be properly specified is indisputable. The debate, instead, forms around the question of the proper specifications. If, however, it was made clear that the costs being modeled are the forward-looking costs that will actually be incurred, greater focus could be brought to bear on the correct structure of the model and its inputs.

The staff analysis identifies a wide range of variables that relate to the structure of the proxy models as well as their inputs.¹⁴ In Attachment 1, BellSouth provides its views concerning the more significant components discussed in the staff analysis.

III. CONCLUSION

The rapidly changing market environment and the regulatory changes necessitated by the Telecommunications Act of 1996 make the search for a single formula to be used as the universal

¹⁴ Staff Analysis, ¶¶ 18-73.

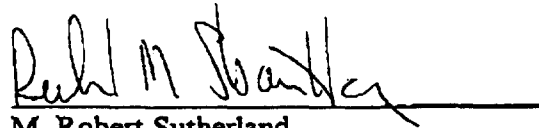
February 18, 1997

remedy attractive. In part, the proxy cost approach has taken on this mantle. Unfortunately, it is not the curative that some would have the Commission believe. Many of the problems confronted by the Commission stem from the legacy of regulation. The Commission should not and cannot simply "model" those problems away. The Commission must deal with the actual costs incurred by incumbent LECs and provide for their recovery.

Respectfully submitted,

**BELLSOUTH CORPORATION
BELLSOUTH TELECOMMUNICATIONS, INC.**

By:



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Date: February 18, 1997

ATTACHMENT 1

Model Structure and Input Requirements

Existing Wire Center Approach (Paras. 18-21)

A proxy cost model is supposed to estimate LEC costs. Accordingly, the appropriate starting point of a model should be the existing location of LEC wire centers. To use any other assumption would preclude the model from providing a reasonable estimate of the costs of the telephone network. It should be recognized that even in the future, the basic structure of the network would be based on existing wire center locations.

The staff analysis questions whether wireless technology should be incorporated into the model based on a cost cap or cost cut-over type threshold. None of the models attempt to measure such a threshold. It should be recognized that any threshold would be speculative. Even assuming that a theoretical threshold could be determined, it still would be inappropriate to incorporate wireless technology in the model. At this point in time, the wireless technologies do not displace or alter the costs that wireline LECs incur or would incur to provide service.

Geographic Unit of Analysis (Paras. 22-24)

As the staff analysis points out, both the BCM2 and the Hatfield models use census block groups (CBGs) as the basic unit of analysis. BellSouth believes that CBGs may result in unexpected variances in results that could be avoided with a more discrete geographical unit such as grids. To date, BellSouth has discovered certain anomalies with the per-line distribution distances between wire centers in CBGs having similar line densities. The following is an example in Louisiana using the Hatfield model:

<u>CBG</u>	<u>Per Line Density (Ln/sq. mi.)</u>	<u>Distribution Distance (Ft.)</u>
220330042017	609.62	35
220330030021	609.86	8

A priori, given the similar line density, it would be expected that the distribution distance would be similar. BellSouth believes use of grids would eliminate these anomalies and any associated inconsistencies in cost estimates.

Specification of Demand (Paras. 25-28)

The current models use estimates of current demand as an input, rather than forward-looking estimates of demand. The staff analysis expresses concern that the use of current demand may lead to significant modeling inaccuracies. BellSouth believes the concern expressed in the staff analysis is valid. The use of current demand rather than forecast demand does not model the way investments are made. Plant is typically sized to meet demand for a period in the future in order to gain efficiencies, to avoid additional labor costs and to minimize supporting structure costs.

The use of current demand produces results that not only fail to recognize the economies that the LEC gained by placing facilities over a period of time, it also fails to recognize the way in which new entrants will place facilities. Indeed, new entrants will not initially face the prospect of serving the total current demand. They will initially target specific customers or areas. Sound engineering economics dictates the placement of smaller cables, for example, with additional facilities placed as demand increases. By failing to recognize proper engineering economies over time, the model will likely produce lower costs than would be realized by either a new entrant or an incumbent LEC. An assumption that a carrier will serve all of the customers will also result in an understatement of cost.

Loop Plant - Fill Factors (par. 41-43)

BellSouth agrees with the staff that utilization levels or fill factors are a necessary element in any model and that these factors have a significant effect on the cost produced by the model.

The current models use fill factors and current demand to determine cable sizes. Networks, however, are not built this way. Fill factors in concert with demand not only determine the size of facilities being placed but also trigger placement timing. Existing networks were built over a long period of time. It is shortsighted to think that a new entrant's network will not be built in the same way.

We support the need for additional examination of these factors. At a minimum, we believe that fill factor input variables are required for feeder routes, fiber and copper separately, subscriber carrier systems, and distribution facilities.

Loop Plant - Cable & Structures (par. 44-47)

BellSouth disagrees with any approach that forces the sharing of structure costs. The use of structures is usually covered under a rental agreement or other contract arrangements. The impact of these arrangements can be determined by netting rent revenue and rent expenses which can then be reflected in the annual operating expense loading. It is also unrealistic to think that a new entrant could build a new route and expect to share structure costs with other users who already have a network in place.

Structure sharing has a very significant impact on the model results. BellSouth performed a sensitivity test using Kentucky data and determined that changing the sharing percentage from 33% to 100% changed the average loop cost from \$16.48 to \$20.74, or an increase of approximately 26%. The Hatfield Model that assumes sharing of structure costs would result in understated costs. Clearly, this issue must be resolved before the Commission can select a model.

Switching Investment (Paras. 48-50)

BellSouth believes that the Switching Cost Information System (SCIS) forms the proper basis upon which to calculate switching investment. SCIS has been thoroughly reviewed and audited and is a structurally sound model. Further, the model is capable of accommodating changes in input values to the extent that such changes are warranted due to competition.

Other Investments (Para. 51)

Interoffice investment falls into two types: common and dedicated. Common transport should be included in the model on a minutes-of-use basis. Dedicated transport should be reflected in the model on a distance sensitive basis using the investment per facility mile and the total facility miles.

Signaling investment should also be included in the model. An investment per message based on the average number of octets per message and the investment per octet could be used. Total investment would be calculated on total messages.

Capital Expenses (Paras. 53-63)

BellSouth agrees that a forward-looking cost of capital should be used in the model. Two approaches being considered in the staff analysis, however, are not measures of forward-looking costs of capital. One suggested approach is the cost of capital implicit in the U.S. National Income and Product Accounts, the other is the implicit price for capital. Both measures are historical earned returns on capital, not forward-looking, market-based estimates of the cost of capital.

BellSouth agrees with the Staff Analysis that a proxy model should use economic lives rather than the prescribed physical lives. The economic life of an asset group is the period of time over which the Company's plant has economic value. This economic life is likely to be shorter than the assets' physical life, particularly for the asset groups in which technology changes have their biggest impact.

BellSouth performs detailed analysis to determine the appropriate economic life to be used in depreciation rate calculations. Each account is studied and the appropriate life determined by analyzing company planning data, examining historical mortality data, and performing analysis that properly reflects technological changes and the impact of competition. As changes occur in company plans, technological developments, and the marketplace, BellSouth reviews and updates these lives as needed. BellSouth believes that the economic lives produced by these studies are appropriate to use in a proxy model.

The Staff Analysis discusses appropriate depreciation rates for use in a proxy model. It is BellSouth's belief that depreciation factors should be used that reflect appropriate estimates of depreciation parameters, such as economic lives and anticipated future net salvage values of the Company's assets. BellSouth determines depreciation rates for booking purposes by incorporating economic lives, anticipated net salvage and book reserve, or accumulated depreciation, on embedded investment into its rate calculation for each asset group. Since a proxy model deals entirely with new investment assumed to be placed today, the inclusion of a reserve component in depreciation rate calculation for the model would not be appropriate. (Of course, in reality, a company's investment grows slowly over time, rather than being placed entirely at a single point in time, and the corresponding reserve grows gradually as depreciation expense is accrued on the investment.)

The Staff Analysis suggests that the depreciation rates reported by the LECs for financial purposes may be useful in determining the appropriate lives of facilities. BellSouth does use economic lives in calculating depreciation rates for financial purposes. However, the Remaining Life Method, used in calculating depreciation rates that BellSouth books for financial purposes, includes a reserve component for the embedded plant. Thus, the lives that underlie those depreciation rates would be appropriate for a proxy model, but the rates themselves would not.

In the discussion of appropriate depreciation rates for use in a proxy model, the Staff Analysis refers to those rates reported in ARMIS data. The depreciation rates reported in ARMIS data reflect the lives that the FCC last prescribed for BellSouth's use. Historically, the FCC has prescribed long asset lives in an effort to keep rates low. These prescribed lives, however, have been too long and do not appropriately reflect the decline in economic value of assets. (In fact, these excessively long lives and the low depreciation rates and accruals that result have created a large reserve deficiency.) Therefore, the depreciation rates as reported in ARMIS data use lives that are inappropriately long, and include a component for reserve on embedded investment. These rates should not be used in a proxy model.

ATTACHMENT 2

3 **DIRECT TESTIMONY OF DR. STEVE G. PARSONS**
4 **ON BEHALF OF BELL SOUTH TELECOMMUNICATIONS, INC.**
5 **BEFORE THE SOUTH CAROLINA PUBLIC SERVICE COMMISSION**
6 **DOCKET NO. 96-358-C**
7 **JANUARY 20, 1996**
8

9 **INTRODUCTION**

10
11 Q. PLEASE STATE YOUR NAME:.

12
13 A. My name is Steve G. Parsons. I am the General Manager for regulatory and liti-
14 gation support at INDETEC International, Inc. I am testifying on behalf of Bell-
15 South Telecommunications (hereinafter referred to as "BellSouth" or "the Com-
16 pany").

17
18 Q. PLEASE BRIEFLY DESCRIBE YOUR PROFESSIONAL QUALIFICA-
19 TIONS?

20 A. I have a Ph.D. in economics from the University of California at Santa Barbara
21 where I was both a University of California Regents Fellow and an Earhart
22 Foundation Fellow. I have taught university-level economics courses in either a
23 visiting or adjunct faculty capacity at eight universities and have taught courses
24 on a variety of issues in applied microeconomics including cost analysis, pricing

3 and regulation through different organizations. I am currently an adjunct profes-
4 sor at Washington University in St. Louis, where I teach a class on the econom-
5 ics of telecommunications and information systems in a specialty masters degree
6 program in telecommunications in the Department of Engineering and Applied
7 Science. I have written many papers and have given many professional presen-
8 tations on economic topics in telecommunications. My work has been published
9 in such journals as the Yale Journal on Regulation, the Administrative Law Re-
10 view, the Energy Journal, Information Economics and Policy, and the Southern
11 Economic Journal. Prior to accepting my position at INDETEC International,
12 Inc., I was employed as a regulatory economist at Southwestern Bell Telephone
13 Company (SWBT) where I utilized applied microeconomics in my involvement
14 with a variety of issues in telecommunications economics and regulation. Prior
15 to my five years of employment with SWBT, I was employed for nearly eight
16 years at Criterion Incorporated, a Dallas-based consulting firm, where I was the
17 Staff Vice President of economic analysis. As an expert economic witness, I
18 have testified or filed affidavits, declarations or testimony in state court, federal
19 district court, an administrative proceeding and before public service commis-
20 sions in Arizona, California, The District of Columbia, Georgia, Indiana, Kansas,
21 Missouri, Oklahoma, Texas, and Wisconsin. I have attached a copy of my *cur-*
22 *riculum vitae* as) exhibit SGP-1.

23
24 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

3 a universal service mechanism should logically precede the establishment of
4 prices for interconnection, UNEs and wholesale discounts.

5

6 ***A LEC SHOULD NOT BE PROHIBITED FROM PRICING ITS SERVICES***
7 ***TO OBTAIN CONTRIBUTION TO RECOVER ITS SHARED AND COM-***
8 ***MON COSTS***

9

10 Q. THE AT&T WITNESSES DISCUSS THE FCC FIRST INTERCONNECTION
11 ORDER AT LENGTH. HAS THIS ORDER BEEN APPEALED IN FEDERAL
12 COURT?

13

14 A. Yes.

15

16 Q. DID THE FEDERAL COURT GRANT A STAY OF THE FCC'S PRICING
17 RULES?

18

19 A. Yes. The Eighth Circuit Court of Appeals stayed those provisions of the FCC
20 First Interconnection Order pertaining to pricing and the Most Favored Nation
21 clause which allows new entrants to "pick and choose" the most favorable pro-
22 visions from any interconnection agreement signed by the incumbent LEC. The
23 pricing provisions which were stayed include the FCC's proxy prices for un-

3 bundled network elements, the avoided cost wholesale discount, and the TEL-
4 RIC methodologies.

5

6 Q. SHOULD THE COMMISSION REQUIRE BELL SOUTH TO PRICE ITS
7 UNES AND INTERCONNECTION SERVICES EQUAL TO INCREMENTAL
8 COST?

9

10 A. No, in contrast to the recommendations of Dr. Kaserman. A multiservice net-
11 work-based LEC like BellSouth has shared, joint and common costs which must
12 be recovered by pricing services above any measure of incremental cost.

13

14 Q. HOW DOES THE FCC DEFINE THE TERM "COMMON COSTS"?

15

16 A. The FCC defines the term "common costs" as "... costs that are incurred in con-
17 nection with the production of multiple products or services, and remain un-
18 changed as the relative proportion of those products or services varies (e.g., the
19 salaries of corporate managers)."⁴ The FCC Interconnection Order, at times,
20 uses the terms joint and common costs. Any multiservice firm will have joint,
21 common, shared, and indirect costs which are not included in a traditional in-
22 cremental cost calculation. For ease of discussion, I will employ the single term

⁴ FCC Interconnection Order, ¶ 676.

3 "common cost," in much the same way that the term is used in the FCC Inter-
4 connection Order, as a catch-all for the costs which are not direct incremental
5 costs.⁵

6
7 Q. IS RECOVERY OF SUCH COMMON COSTS APPROPRIATE?

8
9 A. Yes. A multiservice network-based LEC like BellSouth has significant costs
10 which are not incremental to any one service. These costs must be recovered by
11 pricing services above any measure of incremental cost.

12
13 Q. ARE THE COMMON COSTS OF A MULTISERVICE NETWORK-BASED
14 LEC LIKE BELL SOUTH SIGNIFICANT?

15
16 A. Yes. Common costs include some of the costs of general engineering of the
17 network, right-to-use fees that apply to multiple functionalities, portions of many
18 physical facilities, the cost of capital and depreciation expenses on facilities
19 which are not directly attributable to individual services, operating expenses and
20 even taxes. For example, Barb Smith of Southwestern Bell Telephone, in Kan-
21 sas Docket No. 190,492-U (page 7) testified:

22 SWBT has conducted a preliminary analysis in Texas that
23 shows that the difference between the sum of the LRIC studies

⁵ FCC Interconnection Order, ¶ 676 ("For purposes of our discussion, we refer to joint and common costs as simply common costs unless the distinction is relevant in a particular context.").